

SOUTHERN QUEENSLAND FLYING-FOX EDUCATION KIT

Year 7: Where do flying-foxes fit in?



www.allaboutbats.org.au



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Level 2, 183 North Quay Brisbane | PO Box 13204 George St QLD 4003

Phone: +61 7 3211 4404 | Fax: +61 7 3211 4405

Email: admin@seqcatchments.com.au

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CARING
FOR
OUR
COUNTRY

Flying-fox education kit

About the education kit

The *Southern Queensland Flying-fox Education Kit* was developed as part of the ***Improving Landscape Resilience to Climate Change in SEQ: the flying-fox roost & forage conservation pilot project***. This two-year project, coordinated by SEQ Catchments, aimed to improve the long-term sustainability of flying-fox camp sites in the southern Queensland region and increasing community awareness of the intrinsic value of flying-foxes and the critical ecosystem services they provide.

The project was funded through the Australian Government's Caring for our Country program and supported by Brisbane, Logan and Redland City Councils, Moreton Bay Regional Council, Noah's Ark Wildlife Coalition, Bat Conservation and Rescue Queensland, The Hut Environment and Community Association, the Queensland



Department of Environment and Resource Management and Burnett Mary Regional Group.

The education kit introduces teachers and students to Gracie the grey-headed flying-fox. Gracie's mission is to help save my flying-foxes and get the message out about how important they are in pollinating native trees and dispersing native seed - essential things in keeping our environment healthy!

The All About Bats website is a key component to this education kit - www.allaboutbats.org.au.

Year 7: Where do flying-foxes fit in?

The *Southern Queensland Flying-fox Education Kit* provides schools of southern Queensland with an opportunity to study flying-foxes in the classroom while achieving outcomes (particularly Biological Sciences) under the Australian Curriculum.

The year 7 unit consists of three lessons that contain a variety of activities. Teachers may choose to complete more than the suggested lessons e.g. a teacher may choose to recap some of the year 6 activities or proceed to year 8.

These activities use a range of different learning media to provide an all-round learning experience for their students. This includes printed materials, PowerPoint presentations, YouTube videos and sound files that are all found on the All About Bats website.

The year 7 unit "Where do flying-foxes fit in?", introduces students to classifying micro-bats and mega-bats through the use of a classification tree and identifying distinguishing features. It looks at forest food chains and webs and human threats to the web. The unit finishes with a look at how we can become more flying-fox friendly in our neighbourhoods.



Year 7 Where do flying-foxes fit in?



Rationale

This unit introduces year 7 students to the classification of micro-bats and mega-bats through the use of a classification tree and distinguishing characteristics.

It then introduces them to the food chains and food webs of bats. Equipped with this information, students are able to make their own food web and analyse the impact humans have had on the food web. The unit finishes with a look at how we can become more flying-fox friendly in our neighbourhoods.



Lesson 7.1 Classification of bats

Students are introduced to the different species of mega-bats and micro-bats found in Australia, their differences and how they are named. They use a classification tree to establish the full name of ten different species of bat.

Lesson 7.2 Food chains and webs

Students are introduced to food chains. Examples are shown of bats eating and being eaten. Students look at a picture of a forest ecosystem and draw their own food web. A role play is acted out to see what would happen if one of the links in the ecosystem disappears. Finally students are introduced to some of the vocabulary associated with ecology.

Lesson 7.3 The impact of humans on flying-foxes

Students look at the impact of introduced species on biodiversity. Next students will explore all the ways that humans impact flying-foxes. Finally, they will think about how they can make a neighbourhood more friendly for flying-foxes.

Year 7 Where do flying-foxes fit in?



National Curriculum

Lesson	7.1	7.2	7.3	Statements
Science understanding (Biological sciences)	✓	✓	✓	There are differences within and between groups of organisms; classification helps organise this diversity. (ACSSU111) Interactions between organisms can be described in terms of food chains and food webs; human activity can affect these interactions. (ACSSU112)
Science inquiry skills	✓	✓	✓	Construct and use a range of representations, including graphs, keys and models to represent and analyse patterns or relationships, including using digital technologies as appropriate. (AC SIS129) Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions. (AC SIS130)
General Capabilities: Literacy	✓	✓	✓	As they become literate students learn to: <ul style="list-style-type: none"> • make appropriate word selections and decode and comprehend new (basic, specialised and technical) vocabulary. (Vocabulary) • use and produce a range of visual materials to learn and demonstrate learning. (Visual information)
General Capabilities: Numeracy			✓	As they become numerate, students develop and use mathematical skills related to: <ul style="list-style-type: none"> • Patterns and relationships
General capabilities: Critical and creative thinking	✓	✓	✓	As they develop critical and creative thinking students learn to: <ul style="list-style-type: none"> • apply logic and strategies to uncover meaning and make reasoned judgments • think beyond the immediate situation to consider the 'big picture' before focussing on the detail • reflect on thinking, actions and processes • analyse information logically and make reasoned judgments • evaluate ideas and create solutions and draw conclusions • assess the feasibility, possible risks and benefits in the implementation of their ideas • transfer their knowledge to new situations
Cross-curriculum priority: Sustainability	✓	✓	✓	All life forms, including human life, are connected through ecosystems on which they depend for their wellbeing. (OI.2) Sustainability action is designed to intervene in ecological, social and economic systems in order to develop more sustainable patterns of living. (OI.7) Sustainable futures are shaped by our behaviours and by the products, systems and environments we design today. (OI.8) Products and built systems and environments can be designed and/or managed to improve both people's wellbeing and environmental sustainability. (OI.9) Social and economic systems can be designed, managed and/or used to improve both people's wellbeing and environmental sustainability. (OI.10)

Classification of bats



Objectives

Students learn about differences between mega-bats and micro-bats. They identify the different species of mega-bat that live in mainland Australia. Students are introduced to the scientific classification and naming of bats. They apply their knowledge by creating, drawing and classifying their own bat.

National Curriculum

Activity	7.1A	7.1B	7.1C	7.1D
Science understanding (Biological sciences)	✓	✓	✓	✓
Science inquiry skills		✓	✓	
General capabilities: Literacy	✓		✓	
General capabilities: Critical and creative thinking	✓	✓	✓	✓

For outcome codes and descriptions of outcomes, see unit overview.

Background information

All bats have been scientifically classified as part of the Chiroptera order. Chiroptera means 'hand-wing' in Greek. There has been a lot of debate over the years as to whether micro-bats and mega-bats evolved from different ancestors. Recent genetic evidence confirms that bats have evolved from the same genetic ancestor and all belong to the same order - Chiroptera.

Scientists are continually reclassifying species based on the advancements in technology and scientific inquiry. There has been new research that suggests some of the micro-bat species

should be reclassified as mega-bats. However, like all good science, this requires more research and results confirmed by multiple scientists.

We are using the classic classification of species. This example is the grey-headed flying-fox.

Kingdom	Animalia	Animal
Phylum	Chordata	Vertebrates
Class	Mammalia	Mammals
Order	Chiroptera	Bats
Family	Pteropodidae	Mega-bat
Genus	<i>Pteropus</i>	
Species	<i>poliocephalus</i>	

Activity sequence

7.1A Mega-bat or micro-bat?

Students are given a table of characteristics of mega-bats and micro-bats. They review the table and use it to decide whether the bats shown in the PowerPoint presentation are mega- or micro-bats.

7.1B Can you name this bat?

In this matching activity, students try to work out which bat has which name based on its name and description. This activity requires photos displayed in a PowerPoint presentation.

7.1C Classification of bats

Students are introduced to the scientific classification of bats. They correctly name the 10 bats identified using the classification tree.

7.1D Guess the bat!

Students pretend they have come across a new species of bat. They draw it with all its distinguishing features. Then, on a separate piece of paper, they name it and write a description for it.

Mega-bat or micro-bat?



There are two main groups of bats, mega-bats and micro-bats. Approximately 70% of bats are micro-bats. The table below shows their main differences. Discuss these differences with your class and use it for the next part of this activity. *Please note that there are some exceptions to these descriptions.*

Characteristic	Mega-bats (megachiroptera) <i>includes flying-foxes, blossom bats and tube-nosed bats</i>	Micro-bats (microchiroptera) <i>mainly insectivorous bats</i>
Size	Up to 1 kilogram. Large wings allow them to fly long distances.	Small size for extra manoeuvrability to catch insects and other fast moving prey.
Food	Eat fruit, pollen or nectar	Eat insects, blood, small mammals, frogs or fish. Some also eat fruit, pollen and nectar.
Finding food	Good eyesight (big eyes), smell and hearing.	Use echolocation (a form of radar) and have larger ears.
Sleep position	Hang upside down.	Hang upside down.
Moving around	Thumb and second finger claws to help them climb around trees. Special claws on their feet that allow them to hang from branches.	No claw on the second digit of the wing.
Habitat	Live and feed in/on trees.	Most Australian micro-bats roost in trees (in hollows or under bark). Other locations include caves, abandoned mines and under road infrastructure (e.g. culverts, bridges).
Sleeping habits	Nocturnal	Nocturnal
Hibernation	Don't hibernate in winter.	Those that live in cool climate will hibernate in winter. Those living in Queensland do not hibernate due to the warmer climate.
Social	Live in big groups or as individuals.	Live in big groups or as individuals.
Fur	They have fur all over their body except the wings. The only time when mega-bats don't have fur on their belly (or sometimes all over) is when they are a baby. This allows them to crawl through their mother's fur to latch on to the nipple located in the armpit.	They have fur all over their body except the wings. The only time when micro-bats don't have fur on their belly (or sometimes all over) is when they are a baby. This allows them to crawl through their mother's fur to latch on to the nipple located in the armpit.

Mega-bat or micro-bat?



Have a look at the "Different types of bats" PowerPoint presentation on the All About Bats > Year 7 web page. This presentation contains 10 different images of bats. Identify whether you think the bat is a micro-bat or a mega-bat. Write down your reason for this decision in the table below.

Picture	Mega-bats (Megachiroptera)	Micro-bats (Microchiroptera)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Can you name this bat?



Mega-bats belong to the Pteropodidae family. There are nine different species of mega-bats living in mainland Australia, and five of those also live in southern Queensland.

Use the descriptions below to see if you can correctly identify the mega-bats shown in the PowerPoint presentation on the All About Bats > Year 7 web page. Write the photo number in the correct box.

Spectacled flying-fox

They are black and have distinctive straw-coloured rings around the eyes and on the back of the head.

Black flying-fox

They are generally black all over, often with a reddish brown mantle (collar) around the back of the neck.

Bare-backed fruit bat

This species has wings that are joined giving the appearance of a bare back. It is black and has prominent tubular nostrils.

Eastern blossom bat

This mouse-sized bat has a long thin muzzle and a very long tongue for feeding on nectar.

Grey-headed flying-fox

They have grey fur on the head with an orange collar (mantle) around its neck. The rest of the body is a dark grey to brown.

Little red flying-fox

This small reddish-brown species is characterised by its semi-transparent wings when flying during the day.

Eastern tube-nosed bat

They have long, protruding, tube-like nostrils and bright yellow spots splashed across its wings and ears.

Northern tube-nosed bat

Similar to the eastern tube-nosed bat but smaller and has greyish body fur.

Northern blossom bat

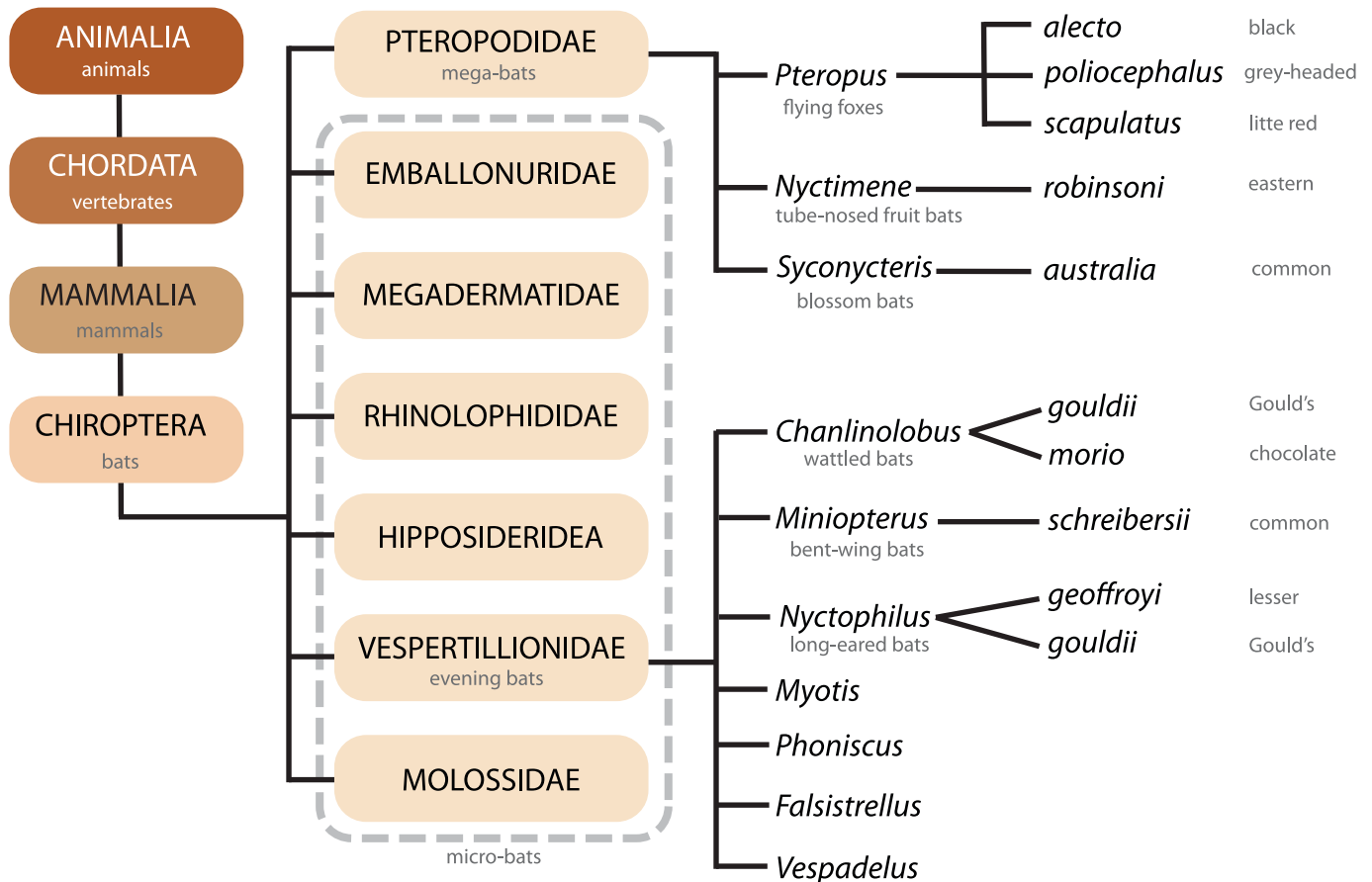
Similar to the eastern blossom bat but slightly darker. It too has a pointed nose for accessing tubular flowers.

Once you have finished, use the All About Bats > Mega-bats web page and find those species that live in your local area.

Classification of bats



This diagram illustrates the scientific naming classification for mega-bats and micro-bats. Notice that each naming level has both a scientific name and a common name.



Create a table like the one below and see if you can scientifically classify one of the 10 bats identified above. If you have time, classify the other bats.

Category	Scientific name	Common name
Kingdom		
Phylum		
Class		
Order		
Family		
Genus		
Species		

Guess that bat!



When scientists discover new species, they draw the bats, list all the main features that differentiate this species from the others and finally name it. The names chosen can refer to anything about the identified species. For example, the name can reflect the place where

they were found, a distinguishing feature of the species, the name of the discoverer or someone dear to them.

Have a look at these drawings. Which one is a micro-bat? Which one is a mega-bat?



Now it's your turn to draw. Pretend you have just discovered a new bat species. Decide what type of bat it is. Now, draw it in the box below and add its distinguishing features. On a separate sheet, write a name (scientific and common) and description of your bat.

For help on how to draw a bat use the steps provide in Activity 4.1D.



Objectives

Students are introduced to the flying-fox food chain and the forest food web. They interpret ecological terms and find examples of them in the forest food web. Students explore the idea that flying-foxes are a keystone species in the forest ecosystem.

National Curriculum

Activity	7.2A	7.2B	7.2C
Science understanding (Biological sciences)	✓	✓	✓
Science inquiry skills	✓	✓	✓
General capabilities: Literacy	✓	✓	✓
General capabilities: Critical and creative thinking	✓	✓	✓
Cross-curriculum priority: Sustainability	✓	✓	✓

For outcome codes and descriptions of outcomes, see unit overview.

Background information

Flying-foxes are an integral part of the forest ecosystem.

Trees rely on flying-foxes to pollinate their flowers and disperse their seeds. Flying-foxes do this by eating their blossoms, drinking their nectar and eating their fruits.

Flying-foxes rely on trees for their food and for shelter.

Flying-foxes are a keystone species. Without flying-foxes, many of our native trees would not be able to reproduce. Without these trees, the forest ecosystem will not be what it is today and many of the forest species will not be able to survive.

Activity sequence

7.2A Food chains of bats

Students are shown the food chain for a micro-bat and a mega-bat. They discuss what they think the diagram means. Students watch a series of short videos about bats. They are asked to draw three food chains based on the videos they have just seen and follow up with classroom discussion.

7.2B A forest food web

After being shown a forest ecosystem, students draw their own food web.

Students are given ecological terms and their definition. They are asked to find examples of the terms in their food web.

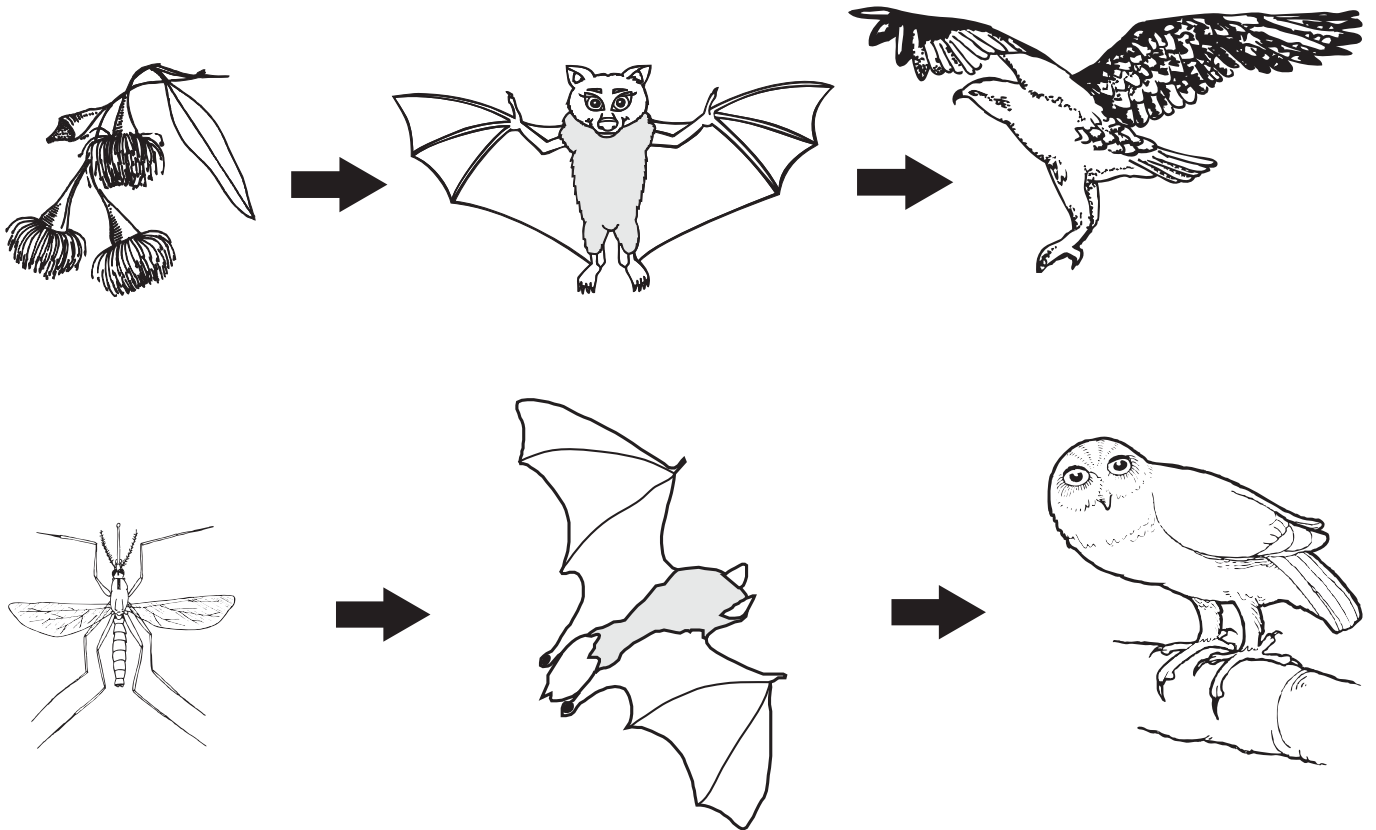
7.2C A living model

Students set up a food web using string. They then look at the effect of extinction on the food web. They look at the food web and estimate how long it would take for the whole system to collapse.

Food chains of bats



A food chain shows the feeding relationship and transfer of energy through a series of organisms.



Label these two food chain diagrams.

Which one is the micro-bat and which one is the mega-bat?

.....

What do the arrows mean?

.....

Can you think of another food chain that involves a flying-fox? Write down the species involved below.

Go to the All About Bats > Year 7 web page and watch the videos.

- Flying-fox trying to escape from a snake
- Kitten eating a bat
- Centipede eating a bat (in Venezuela)
- Bats eat bugs
- Flying-fox eating blossoms
- Fruit bats eating fruit at a zoo
- Sea-eagle eating fruit bat on nest
- Cocos palms – a menace for Australian bats

Can you find other videos or examples?

Draw three new food chains based on the videos you have seen.

ACTIVITY 7.2B

A forest food web



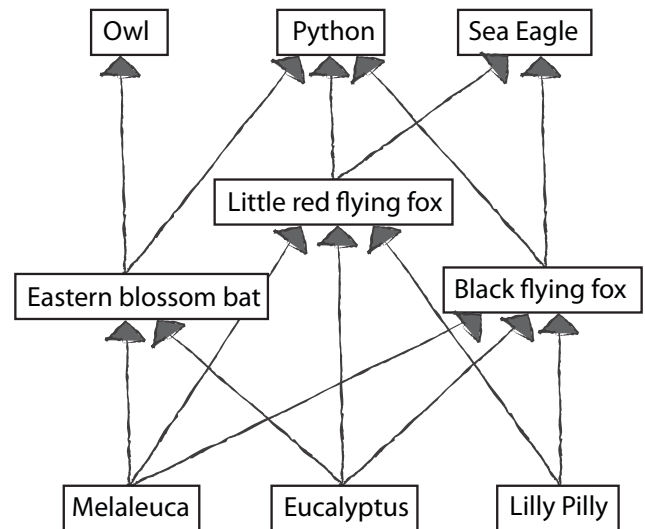
A forest ecosystem relies on the relationships between many species for it to be healthy. A food web shows the feeding relationships and transfer of energy in an ecosystem. The diagram on the right is an example of a simple food web for flying-foxes. How is a food web different from a food chain?

Look at the picture of a forest ecosystem below.

Identify the 4 introduced species that shouldn't be there (2 plants, 1 mammal and 1 insect). Circle them on the picture. Think about what impact they might have on the ecosystem. Share your thoughts with a friend.

As a class, identify another plant or animal that you might find in this forest (one that is not already there).

Create a food web of the ecosystem below similar to this diagram.



Ecological terminology



Have a look at these ecological words and their definitions. Read them and use your food web and picture to find an example of each word.

Word	Definition	Example
Producer	Any organism that manufactures its own food.	
Consumer	Any organism that eats other organisms rather than producing its own food.	
Primary consumer	Any organism that eats producers.	
Secondary consumer	Any organism that eats a primary consumer.	
Tertiary consumer	Any organism that eats secondary consumers.	
Decomposer	An organism that feeds on dead things and breaks them down.	
Predator	An organism that feeds on a second organism.	
Prey	The organism that gets eaten by a predator.	
Herbivore	An animal that eats only plants.	
Carnivore	An animal that eats meat.	
Omnivore	An animal that eats both plants and animals.	
Competitor	Two species that fight over the same resource or habitat.	
Species	Organisms that are the same species can reproduce fertile offspring.	
Parasite	Organisms that feed off their prey but do not kill them, at least not immediately.	<i>Not shown in the diagram but examples include ticks and lice.</i>
Habitat	The surroundings in which individuals of a species are normally found.	
Ecosystem	A community of living things and the physical environment with which they interact.	

Ecological terminology

Teacher's notes



Have a look at these ecological words and their definitions. Read them and use your food web and picture to find an example of each word.

Word	Definition	Example
Producer	Any organism that manufactures its own food.	Any of the plants
Consumer	Any organism that eats other organisms rather than producing its own food.	Any of the animals
Primary consumer	Any organism that eats producers.	Flying-fox, birds, insects
Secondary consumer	Any organism that eats a primary consumer.	Owl, snake, micro-bat, sea eagle, cat, birds
Tertiary consumer	Any organism that eats secondary consumers.	Goanna, owl, sea eagle, cat
Decomposer	An organism that feeds on dead things and breaks them down.	Fungi
Predator	An organism that feeds on a second organism.	Owl, snake
Prey	The organism that gets eaten by a predator.	Flying-fox, birds, snake
Herbivore	An animal that eats only plants.	Flying-fox, koala
Carnivore	An animal that eats meat.	Kookaburra, sea eagle, snake, cat, micro-bat
Omnivore	An animal that eats both plants and animals.	Birds, possum, goanna
Competitor	Two species that fight over the same resource or habitat.	Flying-fox, birds, sugar glider (food) Micro-bat, sugar glider (hollows) Eucalypt, cocos palm (space)
Species	Organisms that are the same species can reproduce fertile offspring.	Any of them
Parasite	Organisms that feed off their prey but do not kill them, at least not immediately.	Not shown in the diagram but examples include ticks and lice.
Habitat	The surroundings in which individuals of a species are normally found.	The whole picture
Ecosystem	A community of living things and the physical environment with which they interact.	The whole picture

NOTE: Some species may be found in more than one category depending on the food chain e.g. birds can be primary consumer when eating nectar or fruit, but will also be a secondary consumer when they eat insects.

A living model

Teachers notes



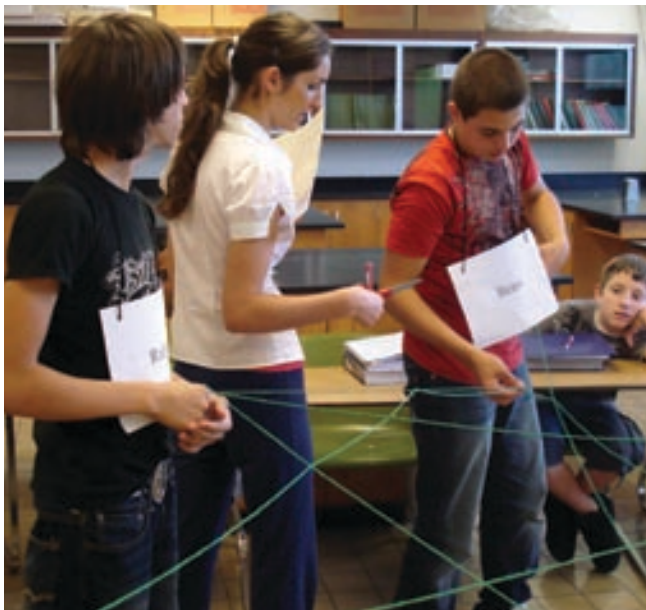
In this activity, students form a living model of a food web using the diagrams they drew in Activity 7.2B. They model the food web using string and look at the effect of species being removed through human interference. It ends with a discussion and students writing a short summary of what they have discovered.

If required, introduce new species into the food web so that each student has a role to play. For example: insects, spiders, annelids – segmented animals such as worms, centipedes, caterpillars, butterflies, frogs, birds, possums, reptiles and plants such as grasses, shrubs and trees etc.

Materials

- Coloured wool, string or crepe paper streamers.
- Food web diagram from Activity 7.2B.
- Label stickers for writing names on or make name cards that state the name of the plant/animal, what they eat and what eats them. See the example shown in the instructions.

This activity requires a bit of space and could be played outside.



Instructions

Students make the name cards for their species describing their relationships in the food web (see the example below). To make it more interesting, make sure some students are tertiary consumers like goannas and decomposers like mushrooms or other fungus.

Flying-fox

What I eat:

- *Eucalyptus blossom*
- *Melaleuca blossom*
- *Lilly Pilly fruit*

What eats me:

- *Python*
- *Sea eagle*
- *Wedge-tailed eagle*

In a large space, students use string to connect themselves to each other like in a food web. Explain to them that the string represents the transfer of energy between species. Trees can be connected to a 'sun'.

What would happen if we lost a species like a sea eagle, goanna or owl?

Cut the string to one of these species or ask them to sit down. Talk about how if secondary consumers go, the other populations will grow and eat all the producers. They will run out of food.

Put the food web back together again.

What would happen if we lost the flying foxes?

Cut the string to the flying foxes and see how many other species are affected. Talk about how flying foxes are a keystone species.

How long do you think it would take for the whole ecosystem to collapse? Hours, days, weeks, months, years, centuries?

A living model



Write a short reflection about your observations in the food web model.

Think about the following questions while reflecting.

- What would happen if flying-foxes became extinct?
- What other species are affected?
- Can they survive without flying-foxes?
- Can the other species survive without the trees?



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The impact of humans on flying-foxes



Objectives

Students explore the impact humans have had on the forest ecosystem. They discover the effect humans have had on flying-foxes and learn of solutions to minimise these effects.

National Curriculum

Activity	7.3A	7.3B	7.3C
Science understanding (Biological sciences)	✓	✓	✓
Science inquiry skills	✓	✓	
General capabilities: Literacy	✓	✓	
General capabilities: Numeracy	✓		
General capabilities: Critical and creative thinking	✓	✓	✓
Cross-curriculum priority: Sustainability	✓	✓	✓

For outcome codes and descriptions of outcomes, see unit overview.

Background information

Humans have had a great impact on the forest ecosystem. We have introduced new species such as crops, garden plants, foxes, cats etc.

Humans have impacted flying-fox populations in numerous ways. We have cleared their natural habitat to make way for housing, infrastructure and agriculture, and have put in plantations of fruit trees. We have introduced new predators

such as cats and dogs. We have put lights, electric wires and barbed wire in places where they fly.

Flying-fox populations are struggling to keep their numbers at a sustainable level. The grey-headed flying-fox is now considered a vulnerable species as their population dropped by 30% in ten years.

Should flying-foxes become extinct, many of the trees they feed on will no longer be able to reproduce as they rely on the flying-fox to pollinate and disperse their seeds. Eventually, a lot of our native trees will become threatened and we may lose the forest ecosystem that we see today.

Activity sequence

7.3A Biodiversity and the introduced threat

Students are asked to discuss the definition of biodiversity and threats posed by introduced species. They calculate the effect that feral animals can have on wilderness areas.

7.3B A night in the life of Gracie

Read Gracie's diary entry and discuss what has happened to her camp. Analyse the human impacts on the health of the colony.

7.3C Create a flying-fox friendly neighbourhood

Students are given a map of a neighbourhood with a few houses, a school, playground and a farm. They are asked to analyse the map and create a list of things that could be changed to make the neighbourhood more friendly for flying-foxes.

Biodiversity and the introduced threat



Definition of biodiversity

Biodiversity (biological diversity) describes the variety of living things on Earth. The biodiversity of our planet includes all life from the smallest micro-organism to the largest mammal.

Why is biodiversity important?

All living things are connected to other living things and to their non-living environment (earth forms, rocks and rivers). If one tiny species in an ecosystem becomes extinct, we may not notice, or think it's important. But the biodiversity of that ecosystem will be altered, and all the ecosystems that the species belonged to will be affected.*

The introduced threat to our biodiversity

Introduced species have flourished in our environment and they have an immense impact on native wildlife. The two main ways introduced species have an effect on our native wildlife is through predation (e.g. cats, foxes) and competition (e.g. weeds, rabbits, goats).

Can you work out the impact?

People were recently asked to report sightings of foxes and cats around some of southern Queensland's wilderness areas. The following data was reported at these parks:

Glasshouse Mountains National Park	15 foxes	5 cats
Daisy Hill Conservation Park	13 foxes	6 cats
Lamington National Park	22 foxes	3 cats
Venman Nature Park	12 foxes	0 cats

We assume that each of these feral animals kills at least 1 native animal per night.

Complete the table below to find out how many native animals are killed over 1 night, 1 week, 1 year and 10 years. Find out the total of native animals killed for both 1 year and 10 years.

Research and report

Think about what introduced species (e.g. weeds) have an impact on flying-foxes. Research how they were introduced, what is their impact and report back to the class your findings.

SE Queensland wilderness areas	Total number of feral animals	Native species killed in 1 week	Native species killed in 1 year	Native species killed in 10 years
Glasshouse Mountains				
Daisy Hill				
Lamington				
Venman				
TOTAL				

The truth is that the damage caused by these feral animals is much greater than what has been calculated. The feral fox and cat problem in Australia is of epidemic proportion and has caused many native animals to become threatened species or even to become extinct.

* www.eco-online.eq.edu.au/novascotia/whatsbio/index.html

A night in the life of Gracie



Gracie the grey-headed flying-fox has made a diary entry about what has been happening in her camp. Read through this entry and answer the questions below.

1. What has happened that has made the little red flying-foxes join Gracie's camp?

.....

2. What type of "natural event" could cause the little reds flying-foxes to move into an area they don't normally visit?

.....

3. What is the effect of these little red flying-foxes on the rest of the camp?

.....

4. What are the human pressures that are having an impact on Gracie's camp?

.....

Dear Diary,

Wow it is crowded here! 100,000 of my little red cousins just moved in. They returned to their usual roost near the tall eucalypt forest, but it had been cleared. Now there are those box-like structures that human's live in. The little reds had nowhere else to go so they joined our camp.

It is fun having them around but everyone else is feeling the pressure from the mass numbers. It is so crowded that the camp has overflowed throughout the surrounding trees, into human territory. The humans don't like us and keep scaring us out of the trees. It is very stressful and some of my friends are getting sick.

Our new friends are so heavy when they clump together that our favourite roosting trees are getting damaged.

Food has become scarce. The little reds are eating all the native blossoms so we have to fly further each night to find food. Some of us have started raiding the nearby mango farm. I like mangoes but every night we are at risk of getting caught in nets, or we are scared off by the humans.

I had to tell my new baby to stay high in the trees at night. There are an alarming number of those vicious cats around that live with people. They stalk the lower branches waiting for any of us to fall, especially the young ones.

Another worry is the new funny trees that are being put up. They have very tall trunks, with no leaves and are connected together by metal wires that hum slightly. After my mother died touching two of the metal wires I know to stay as far away as possible from these.

Anyway, things might be a bit grim at the moment but the little reds will move on soon. Hopefully the camp will return to normal soon.

gracie

Create a flying-fox friendly neighbourhood



Have a look at the map of a neighbourhood below. Circle the things that you would change to make this a more flying-fox friendly place. Write a list of things that you could change.



Things that could be changed are...

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For more information

All About Bats.	www.allaboutbats.org.au
SEQ Catchments	www.seqcatchments.com.au
Burnett Mary Regional Group	www.bmrg.org.au
Department of Environment and Resource Management.....	www.derm.qld.gov.au

Working with bats

The following organisations can be contacted for more information about bats, or individuals may be willing to speak to your class about what they are doing to help conserve our wildlife.

Bat Conservation & Rescue Inc.

www.bats.org.au
P: 07 0488 228 134
E: info@bats.org.au

The Hut Environmental and Community Association Inc. (THECA)

www.theca.asn.au
P: 07 3878 5088
E: theca@hotmail.net.au

Wildlife Presentation Society Queensland

www.wildlife.org.au
P: 07 3221 0194
E: wpsq@wildlife.org.au

Your local council.

Queensland Parks and Wildlife Services

www.derm.qld.gov.au
South East P: 07 3512 2300
Sunshine Coast and Burnett P: 07 5459 6110

SEQ Catchments

www.seqcatchments.com.au
T: 07 3211 4404
E: admin@seqcatchments.com.au

Burnett Mary Regional Group

www.bmrg.org.au
P: 07 4181 2999
E: admin@bmrg.org.au

Excursion ideas

The following locations can be used to visit a flying-fox camp where there is interpretive information to learn more about the local camp. There are many more sites out there that have not been represented here. To find your nearest camp site go to:

www.derm.qld.gov.au/wildlife-ecosystems/wildlife/living_with_wildlife/flyingfoxes/seq-roost-locations.html

Cascade Gardens

Gold Coast Highway, Broadbeach

Woodend Nature Centre

35 Williams Street, Coalfalls
www.discover-our-ipswich.com/woodendnaturecentre.html

Black Swamp Wetland

Access via Queen Street, Cleveland
www.more2redlands.com.au/Explore/Leisure_Attractions/Nature%20-%20Wildlife/Mainland/Pages/Black%20Swamp%20Wetlands.aspx

Tooan Tooan Creek

Cnr Taylor Street and The Esplanade, Hervey Bay

Batty Boat Cruise (Brisbane River)

www.wildlife.org.au/news/2011/batty.html
P: 07 3221 0194
Although this Batty Boat Cruise is an evening activity with a per person cost, it is recommended for teachers who may like to broaden their knowledge about flying-foxes.

www.allaboutbats.org.au

